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earliest origins in the individual, and maintains that it would be unreasonable to expect to find the sexual life of the child to be the same as that of the adult, Moll proceeds to the opposite extreme; he not only refuses to regard as sexual in the child any act or function that is not obviously so also in the adult, but, as we have seen, even denies this term to a number of acts which in the adult would certainly be called sexual. Freud therefore widens the conception of sexuality, while Moll narrows it. Another important ground for divergence is the question of method. Moll says that there are three methods available for such a study: (1) experiment (castration, etc.); (2) the observation of children, which is largely vitiated by both the child's inability to describe his sensations and his feeling of shame towards any adult; (3) the later memories of adults. The latter, however, are seriously imperfect, both in extent, the greater number being forgotten, and in accuracy, important subsequent distortions having falsified them in important particulars. Moll sees no way out of this dilemma, and therefore has to content himself with material that is of necessity poor from a scientific point of view. Freud, on the contrary, having devised an exact method, with a reliable technique, namely, psycho-analysis, has been able to correct both these imperfections in the later memories, *i. e.,* to resuscitate what had been forgotten, and to correct what had been distorted. Moll, it is true, will have nothing to do with psycho-analysis, which he says consists in making arbitrary interpretations at will, but it is throughout plain that he is talking without any knowledge whatever of the method, so that his opinion of it is of little interest.

The book as a whole contains many useful and valuable sections, notably those on the legal and educative aspects of the subject, and it may serve to direct attention to an important and neglected field of study; it can not, however, be regarded as having any great scientific value. The translation is as a rule accurately done, and is written in a clear and good style; Dr. Paul has evidently taken great pains with his task, as is shown by, for instance, the useful explanatory footnotes he has added on linguistic and other difficulties. Among the corrections that should be made in a future edition are the following: The title of Freud's Drei Abhandlungen zur Sexualtheorie (Three Essays on Sexual Theory) is incorrectly quoted in German and incorrectly translated (page 14); Abraham's paper on "Das Erleiden sexueller Traumen, etc.," is curiously rendered as "The Ill Effects of Sexual Dreams," *Träume* (dreams) being confounded with *Traumen* (traumata).

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*The Influence of Caffein on Mental and Motor Efficiency.* H. L. HOLLINGWORTH. *Archives of Psychology.* New York: The Science Press. 1912. Pp. iv + 166.

The diversity of popular opinion concerning the effects of caffeinic beverages lends a special interest to this admirably and carefully planned investigation. Previous researches on the influence of caffein have been limited for the most part to studies of ergographic performance and the effects on reaction times. While the general result has been to show the stimulating action of caffein and an increased capacity for mental and muscular work under its influence, the lack of rigorous control of experimental conditions and the small number of tests on a few individuals make any definite and exact conclusions concerning the influence of caffein on mental and motor processes doubtful. The present investigation was undertaken to secure unambiguous evidence on this problem for the Coca-Cola Company, by whom the research was financed, and the results have been used as evidence in litigation before the federal courts.

The experiments were made on sixteen subjects, ten men and six women, over a period of forty days, including an intensive experiment of three days to study the effects of caffein at close range and to determine their time relations, and an experiment of seven days to study the effects of caffein administered with syrups. The doses, in capsule form, except in the last experiment, varied from 1 to 6 grains and were administered to one squad at half past ten in the morning alternately three days in succession and then sugar of milk three days, to a second squad caffein and sugar of milk on alternate days at the lunch hour, and to a third squad caffein and sugar of milk on alternate days from two and a half to three hours after lunch. The control squad was given only sugar of milk daily.

The tests employed were as follows: three motor tests of speed (tapping test), steadiness, and coordination (three hole test), three simple association tests of different degrees of complexity, association of ideas and words with simple objects of experience (color-naming test), association of one idea with another specific idea (opposites test), association of an idea with a specific task or situation (calculation test), two tests of sensory discrimination and attention (cancellation test and discrimination reaction-time). The questionnaire, the daily health book kept by each subject, and introspective notes furnished information on the relation of caffein to the quality and amount of sleep and to general health.

The effect of caffein on the speed of motor processes seems to be a stimulation, sometimes preceded by a brief and slight initial retardation, the magnitude of the stimulation varying directly with the size of the dose and being relatively slight when the caffein is taken in the forenoon. The effect, varying with the size of the dose, begins from 45 to 90 minutes after administration and persists from one to two hours for doses of 1 to 3 grains and as long as 4.5 hours for 6 grains. The effect on steadiness is a slight nervousness after doses from 1 to 4 grains and a pronounced unsteadiness after 6 grains, which begins within an hour or so after the dose and is still greater after 3 to 4 hours. The effect of small doses on coordination is stimulation, while that of larger doses is retardation, slight when taken in the morning, and greatest when taken in the afternoon without food. The magnitude of the caffein effect varies inversely with the body weight of the individual tested, a result which appears to hold for both the mental and motor tests. One subject was used to test throughout four weeks the influence of caffein on speed and quality of performance in typewriting, the general result being an increase in speed with small doses of caffein alkaloid (1 to 3 grains) and a retardation with larger doses (4 to 6 grains), and a superiority in quality as measured by the number of errors for the whole range of doses.

The general result with the three association tests is stimulation, more apparent after the smaller doses than after the larger ones. The effect begins in 1 to 2 hours when the caffein is taken in a syrup and from 2 to 3 hours when taken in capsule form. The stimulation in the opposites and calculation tests is present 6 to 7 hours after the dose and there is evidence that the influence of caffein is still operative the following day, though it is difficult to disentangle the effects of the caffein from general practise effects. In general the effect on higher mental processes comes more slowly and is more persistent, while with motor processes the effect comes quickly and is transient.

The effect on discrimination reaction time with small amounts of caffein is a retardation, accompanied by a greater number of false reactions, with larger amounts after two hours a considerable stimulation. The cancellation test, owing to individual differences in method of performance and variations in the same individual at different times, gave no very definite results.

The effect of small doses of caffein alkaloid (1–4 grains), taken either in the pure form or accompanied by syrup, on sleep is unappreciable except in a few individual cases. With 6-grain doses there is a marked sleep impairment with most subjects, an effect which is greatest when the dose is taken without food. The two principal factors which seem to modify the degree of caffeinic influence are body weight and the presence of food in the stomach at the time of the dose. The general health of the subjects improved during the 40 days, a result attributable to the regular régime of life. It is noteworthy that no secondary reactions or after effects of importance were noted.

The widespread consumption of caffeinic beverages seems to be justified by the results of the experiment. The author carefully points out, however, that the question of the continuous use of the drug and the effect of caffein in tea or coffee (a cup of coffee contains about 2.5 grains of caffein) can not be answered by these experiments owing to the possible enhancing or neutralizing influence of other non-caffein ingredients.

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*Une philosophie nouvelle, Henri Bergson.* EDOUARD LE ROY. Paris: Alcan. Pp. v + 208.

This books comes to us fortified by the following words from M. Bergson himself: "Over and above the method, you have caught the *intention* and the *spirit*. . . . This study could not have been more conscientious or more faithful. . . . In the measure that it advances, it gives evidence of an increasing effort of condensation; one has the feeling of a progressive rolling up of the exposition on itself, similar to that rolling up by which